RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

Commissioner's Connor Visit to BGNDRF

By Randy Shaw
Facility Manager
Brackish Groundwater National Desalination Research Facility

Commissioner Connor came to the Brackish Groundwater National Desalination Research Facility (BGNDRF) on Wednesday, August 29, 2012, for a tour of the facility. He was accompanied by Mike Hamman, Albuquerque Area Manager, and Jennifer Faler, Albuquerque Deputy Area Manager. BGNDRF recently had a record number of clients working at the facility. These included New Mexico State University in partnership with General Electric working with electrodialysis reversal and combined nanofiltration and reverse osmosis. Their research will include hybridization of these technologies. The University of Nevada at Reno (UNR) researched the performance of pressure retarded osmosis (PRO). Jeri Prante from UNR spent the summer researching PRO as part of her master's degree work. Bryan Schuetze, a doctoral student from Texas Tech University worked with small scale reverse osmosis using various qualities of brackish water available at the facility. Water Standard tested their patented control technology in combination with nanofiltration and reverse osmosis using artificial seawater.

Their research is targeting enhanced oil recovery in offshore oil wells. Their customers from Malaysia came to BGNDRF at one point in the testing to see the technology at work. KII Inc. is presently testing the Suns-River Solar Still semi-works. The Commissioner was able to observe the unit as it used solar energy to create distilled water from brackish water. In the last year, a company from the Netherlands, Voltea, tested capacitive deionization using produced water from the oil field in northern New Mexico. Inquiries from companies in Israel and Spain have been received concerning the possibility of testing their technology at BGNDRF.

The time with the Commissioner ended with Mike Hamman presenting BGNDRF's standing in the Better Building Federal Award competition to reduce annual energy use intensity on a year-over-year basis. BGNDRF was selected as one of eight finalists in the competition and is presently in second place. BGNDRF has reduced energy use intensity by over 50% when compared to the previous year despite a record number of clients. This impressive accomplishment came with about $500 in energy savings investment.

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

The 57th Annual New Mexico Water Resources Research Institute (WRRI) Conference

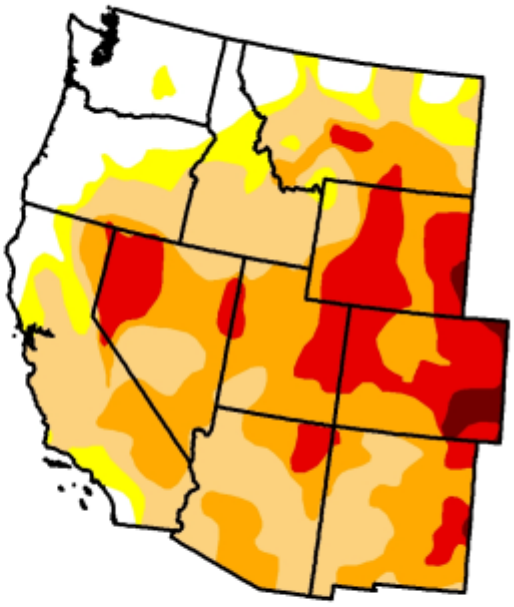
U.S. Drought Monitor

September 4, 2012
Valid 7 a.m. EST

West

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	15.09	84.91	76.86	46.33	17.26	1.49
Last Week (08/28/2012 map)	15.07	84.93	74.27	44.37	15.89	1.15
3 Months Ago (06/05/2012 map)	29.60	70.40	53.30	31.03	4.95	0.00
Start of Calendar Year (12/27/2011 map)	48.49	51.51	20.05	12.22	2.67	0.78
Start of Water Year (09/27/2011 map)	66.72	33.28	19.04	14.99	9.30	3.81
One Year Ago (08/30/2011 map)	74.10	25.90	19.67	14.88	9.24	3.43



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu

USDA National Drought Mitigation Center

Released Thursday, September 6, 2012
Brian Fuchs, National Drought Mitigation Center

By Susan Kendrick
Albuquerque Area Office

On August 28, 2012, Reclamation's Commissioner, Michael Connor, presented a keynote address at the New Mexico Water Resources Research Institute's 57th Annual Water Conference, "Hard Choices: Adapting Policy and Management to Water Scarcity." The conference explored policy opportunities and practical approaches for sustaining New Mexico's agricultural, urban, and rural water uses as supplies decrease.

Commissioner Connor highlighted specific New Mexico issues in his address: Water scarcity, increasing populations and decreasing aquifers, changing climate and hydrology. He discussed priorities, starting with our infrastructure, and the economic and recreational services we provide through our mission. The Commissioner explained our WaterSMART (Sustain and Manage America's Resources for Tomorrow) program and our ecosystem restoration challenges. He mentioned our commitment to strengthening tribal nations and rural communities, and finally, our water quality issues across the west. He quoted from the Southwest Climate Outlet publication:

"Water storage on the Rio Grande in New Mexico has plummeted amid a decade-long drought, forcing farmers and water managers to make up shortfalls using groundwater and other practices. On the Rio Grande, historically, the wellspring for more than five million people in Colorado, New Mexico, Texas, and Mexico, coping with scarcity has become the new normal."

"On the positive side, we continue to have a very productive relationship with the state and a number of communities in many areas. With our WaterSMART program, we've long had a number of grants for conservation and efficiency projects here in New Mexico."

U.S. Senator Tom Udall set the stage for the day, discussing the difficult choices that New Mexico needs to make in order to provide for future water needs. He stressed the need for balance between urban and rural uses, as well as a need to work toward solutions cooperatively: "The hardest choice is between conflict and cooperation. In New Mexico we cannot afford to be cynical about the value of water, and so we must work together – citizens, advocates, local, state and federal officials – to collaborate on shared solutions."

Dagmar Llewellyn, a hydrologist at the Bureau of Reclamation, Albuquerque Area Office (*see this issue of UC Today's Spotlight to read more about Dagmar's career*), spoke about climate change on a panel titled, "Setting the Stage: Where is the Water and How Much Do We Have?" She introduced Reclamation's West Wide Climate Risk Assessment program, which is developing projections of future water supply and demand in major western water basins, including the Rio Grande. Local water-management entities were encouraged to partner with Reclamation on Basin Studies, which explore adaptation strategies for those projected hydrologic impacts. She noted that all of our hydrologic projections at this time involve considerable uncertainty, and that, when faced with uncertainty, all of our potential choices involve risk, including the choice to do nothing. Dagmar noted that despite the high levels of uncertainty, there are common elements to all of our projections of hydrologic conditions under climate change, and these common elements can be used in water management planning.

Among the other speakers at the conference, a panel consisting of all of the living past New Mexico State Engineers imparted wisdom that can only come from experience.

Water supply and drought issues pervade the Western United States, and Reclamation has and will continue to partner with entities such as the WRRI, universities, state agencies, and municipalities to develop effective solutions to New Mexico's growing water challenges.

If you would like more information on the WRRI conference, you can listen to the entire webcast and New Mexico's Hard Choices at KUNM

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

AMWG 2012 Field Trip

AMWG Group on the river. Photo by Sam Janson, Glen Canyon River Guide

By Marianne Crawford
Biologist, Environmental Resource Division
Upper Colorado Region

Following the August 29-30 Adaptive Management Working Group (AMWG) meeting in Flagstaff Arizona, Reclamation and the National Park Service hosted a field trip for AMWG members. Staff from Reclamation, the National Park Service and the Grand Canyon Monitoring and Research (GCMRC) were on hand to provide information and answer questions. The purpose of the trip was to give AMWG members a first-hand look at the resources for which they advise the Secretary of the Interior through the Glen Canyon Dam Adaptive Management Program. This trip also provided an important opportunity to hear perspectives of the tribal members of AMWG on the importance of the Colorado River and its canyons to their respective tribes' history and culture.

Immediately following the AMWG meeting, the group traveled to Marble Canyon to spend the night at local lodges in order to get an early start the next day. The Grand Canyon River Guides (GCRG) provided a river runner type dinner on the beach at the Paria riffle that evening and it proved to be an excellent opportunity for the stakeholders to interact and discuss their perspectives on a more relaxed and personal level.

Friday morning at 7AM, shuttles moved the group to Glen Canyon Dam for a tour of the facility. Jason Tucker, Manager, Glen Canyon Dam Field Division welcomed everyone. He was followed by introductions from Anne Castle, Assistant Secretary of Water and Science, Todd Brindle, Glen Canyon National Recreation area (GCNRA) Superintendent and Ann Gold, Deputy Director of the Upper Colorado Reclamation Regional Office. Prior to starting the tour, Leigh Kuwanwisiwma from the Hopi tribe, spoke about the effects of Glen Canyon Dam on Hopi culture, including loss of archaeological and religious sites and resources as a result of filling Lake Powell.

During the dam tour, in addition to the many questions and discussions about operations, Leslie James, Colorado River Energy Distributors Association (CREDA) and LaVerne Kyriss, Western Area Power Administration (Western) used a grid map to inform the group on how power generated at the Glen Canyon dam is collected and distributed and the customers it serves.

As we exited the dam at the river level, boats were waiting to take us on a tour downstream from the dam to Lees Ferry. Loretta Jackson Kelly, Hualapai Tribe, Tony Joe from Navajo Nation and Charlie Bulletts, Southern Paiute Consortium made tribal offerings and blessings at the dock prior to departure. Loretta provided Assistant Secretary Anne Castle with a Hualapai token consisting of herbs of cultural significance, hematite and salt from mines in the Grand Canyon, all highly valued by the tribes. She expressed her thanks to Assistant Secretary Castle for her contributions and commitment to the AMWG process.

Each of the three boats had an archaeologist, a fisheries biologist and a geomorphologist on board to facilitate discussions and point out areas of interest along the way. The first stop was at Nine Mile Draw and the location of the petroglyph known as the descending sheep panel. Loretta, Charlie and Tony Joe, explained the importance of all petrogyphs to the tribes and gave their interpretation of the panel. Charlie stressed the importance of respecting these sites and described the devastation it brings to the tribes when any ancient artifact is marred or disrespected in any way. He then honored the group with a Paiute song his grandfather had taught him.

During the 15 mile trip downstream, the geomorphologists shared information on changes to the river since the dam was built, and the biologists provided information on vegetation, habitat, and the Lees Ferry trout fishery, including a stop to admire some representative trout at a GCMRC research site.

As the boats docked at Lees Ferry, thunder echoed through the canyon and monsoon type rainstorms ensued. Luckily the storm was short lived since Jack Schmidt, Chief of GCMRC was scheduled to give a presentation on geomorphology at the Paria riffle. The confluence of the Paria with the Colorado is the site of most of the sediment input into the system. The amount and timing of sediment accumulation triggers high flow experimental releases from the dam designed to simulate more natural flows and move sediment downstream to improve camping beaches and native fish habitats.

A tired, sunburned, wet but enlightened group returned to their cars and headed home. Several of the AMWG members agreed that this trip provided them with greater knowledge and understanding of

the many resources and varied stakeholder perspectives facing them as they advise the Secretary of the Interior on protection of resources under the Grand Canyon Protection Act of 1992.

Photos below

Jason Tucker and Anne Castle, photo by Sam Janson

Launch, photo by Glen Knowles

Loretta Jackson-Kelly given Anne Castle token by Beverley Heffernan

Charlie Bulletts at Descent Sheep Panel by Beverley Heffernan

Trout at Cobble Bar, photo by Beverley Heffernan

Down the river, photo by Sam Janson, Glen Canyon River Guide

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

Thoughts from the Front Office

Have you ever been asked by a friend or neighbor the following question, “What do you do for work?” Usually when we respond to this type of question we focus on the function of our job or the tasks we have at hand. We might say we work in a powerplant, operate a heavy piece of equipment, administer a contract, manage a program, or any number of other responses that gives a general indication of what we do. Every once in a while an inquisitive soul will follow up with, “Why do you do that?” This is where things can get pretty interesting. Think about it – what would you say? Why do you do what you do? Can you make a connection between the job you do and the Mission of Reclamation? Can you see the importance of your work?

Reclamation’s mission statement reads:

> *The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.*

By reading the Mission of Reclamation it may be clear to you where you fit in – then again - it may not. The following paragraph, taken from Reclamation’s internet site, adds additional information to the “why” we do what we do and may help.

> *Today, Reclamation is a contemporary water management agency with a Strategic Plan outlining numerous programs, initiatives and activities that will help the Western States, Native American Tribes and others meet new water needs and balance the multitude of competing uses of water in the West. Our mission is to assist in meeting the increasing water demands of the West while protecting the environment and the public's investment in these structures. We place great emphasis on fulfilling our water delivery obligations, water conservation, water recycling and reuse, and developing partnerships with our customers, states, and Native American Tribes, and in finding ways to bring together the variety of interests to address the competing needs for our limited water resources.*

I hope this information helps in understanding the importance of the “why” in addition to the “what” we do. I also want each of you to know how important your work is in accomplishing the mission of Reclamation. Find your place in it. I assure you that you are there and without your efforts and hard work we would not be able to provide the service to the people of the American West as we have done for over one hundred years.

Brent

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

Sparked by the Passage - Dagmar Llewellyn

Dagmar Llewellyn is a hydrologist, with an educational background in geosciences and civil engineering, and post-graduate studies in climate dynamics, paleo-climatology, river restoration, GIS, and water law and management. For the past 12 years, her work has focused on water-management and endangered-species issues in the Middle Rio Grande of New Mexico. Her work has involved water supply and demand evaluation, groundwater/surface-water interaction, irrigation efficiency, habitat and hydrologic requirements of endangered species, and accounting under the Rio Grande Compact. After 25 years in environmental and water-resource consulting, her interest in working for the Federal Government was sparked by the passage of the SECURE Water Act, which assigned to the Bureau of Reclamation a west-wide evaluation of the potential hydrologic implications of climate change. Since 2010, she has worked at the Bureau of Reclamation on programs authorized under the SECURE Water Act, as well as on Middle Rio Grande water management and endangered species issues. Ms. Llewellyn is a member of the West-Wide Climate Risk Assessment (WWCRA) Implementation Team and a listed

author on the SECURE report to Congress. She currently serves on the WWCRA Ecological Resources Team, which seeks to determine ways to systematically evaluate climate-change impacts on ecological resources in the western US. She is co-lead of the Rio Grande Climate Impact Assessment, and Reclamation's project manager for the Santa Fe Basin Study. She is also Reclamation's project manager for an effort to enhance operations modeling for the Middle Rio Grande to support climate-change analysis. She is a member of a National Science Foundation / EPSCOR innovation working group on the potential impacts of climate change on agriculture in the southwest, and recently served as a panelist at the international "Climate Adaptations Futures" conference on the topic of transforming science into policy.

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

Cruel Summer: The 2012 Fire Season Takes its Toll on Fishes of Utah

Figure 1. Fish mortalities resulting from input of ash and other fire debris, Price River, Utah, July 2012. Photo: Dan Keller, UDWR.

By Dave Speas
Fish Biologist
Upper Colorado Region

Although often portrayed as entirely destructive, fire is a natural process in terrestrial ecosystems. Fires often plays a pivotal role in the revitalization and diversification of forest habitats for a variety of plants, birds, mammals and other life; some tree species actually rely on fire as a mechanism for germination of their seeds. When fires are followed closely by heavy rainfall, however, the results can be particularly devastating to aquatic life in burned watersheds. Expanses of highly mobile debris left behind by fires—ash, cinders, charcoal, and soil made highly erodible due to the lack of vegetation—can easily be

washed into neighboring streams by sudden downpours. The massive and sudden introduction of such material sometimes overwhelms the ability of streams to dilute it, and consequently fish can expire either through clogging of their gills with ash or from stress due to reduced oxygen availability.

This destructive chain of events has made for a cruel summer in Utah this year, especially if you're a fish. Hot, dry conditions that developed in early spring of 2012, combined with a thick layer of dead, desiccated vegetation created during the exceptionally wet conditions of 2011, created explosive wildfire conditions for Utah's forests and rangelands. By late June, hundreds of fires had already come and gone burned across the state, but when rainfall finally arrived in July, the normally nourishing and sustaining effects of precipitation turned deadly for fish communities in burned watersheds across the state.

While the final extent of fire impacts to fish and aquatic life has yet to be officially tallied, it is clear at this time that the Seeley and Wolf Den fires were responsible for several instances of extensive fish mortality ("fish kills"), many of which included significant numbers of native and endangered fish. The Seeley Fire began on June 26 due a lightning strike and consumed 48,000 acres of the Manti-La Sal National Forest near Huntington, UT by the time it was contained on July 16. The blaze denuded large tracks of steep, heavily timbered terrain, which weakened the stability of hillsides considerably. When combined with heavy precipitation events during July, massive, ash-laden debris flows entered a number of streams including Huntington Creek along SR 31 in Huntington Canyon (a designated scenic byway) and tributaries to the Price River.

According to the Utah Division of Wildlife Resources (UDWR) biologist Dan Keller, the flashflood-driven ash and debris flows wiped out the vast majority of the Huntington Creek brown trout population, which had once provided blue-ribbon fishing opportunities in a beautiful forested canyon environment. Further downstream in the San Rafael River (which receives input from Huntington Creek), scores of native fish, including flannelmouth sucker, bluehead sucker and roundtail chub, expired due to large inputs of fire debris. The San Rafael River was, at one point, the study area of a native fish investigation conducted by Utah State University and funded by Reclamation. Numerous endangered fish were documented in the stream during 2007 through 2010; however, the extent of losses of these fish in the San Rafael River in 2012 are unknown.

In the Price River, the Seeley Fire introduced toxic volumes of ash and other fire debris during at least two separate precipitation events in July. On July 10, UDWR biologists observed dead native fish below Farnham Dam, their gills apparently clogged with ash; other fish, presumably dying, were observed gasping for air at the surface of the blackish water (figures 1 and 2). While this event apparently did not affect fish populations further downstream near Woodside, UT, the entirePrice River was heavily impacted by a second runoff event documented on July 18. This event was so massive that portions of the Green River downstream from the Price River confluence were actually blackened as well, and this time endangered fish (razorback sucker) were among the mortalities recorded. It is unknown if these fish died in the Price River (where most of the mortality presumably took place) and were washed into the Green River, or whether mortalities also occurred in the Green River.

The Wolf Den Fire started about 35 miles south of Vernal on June 29th and consumed at least 22,000 acres of grassland before being contained on July 11th. On July 27th, U.S. Fish and Wildlife biologist Tildon Jones received a call from a petroleum company employee in the vicinity of the White River just

upstream from the Ute Indian Tribe reservation boundary. The individual reported charred wood floating in the river, as well as dead suckers, catfish and crayfish. The latter was particularly disconcerting to Jones, who realized that crayfish are typically very tolerant of oxygen-depleted conditions. If crayfish were killed, what would that mean to the river's largely intact native fish fauna?

Jones visited several areas along the White River on July 30 and concluded that massive amounts of ash and other debris from the Wolf Den Fire had entered the White River through Evacuation Canyon during a downpour and flash flood event the previous week. The White River flow gage recorded a large spike in river discharge on July 24th, a few days before the fish kill was reported by the petroleum worker. Among the bits and pieces of charcoal, and the carcasses of flannelmouth and bluehead sucker and a host of other fish, Jones documented at least one dead endangered Colorado pikeminnow, which typically use the White River for feeding during summer months.

Photographs of the upper Evacuation Canyon drainage burned by the Wolf Den fire leave little doubt as to what caused the White River fish kill. The denuded moonscape left behind by the fire left little to anchor soils in place against monsoonal downpours reported in the Book Cliffs area the week of July 23rd (Figure 3). In some cases, gullies on the order of 15' deep were incised by the violent runoff (Figure 4), and widespread debris fields were a certain indicator of the flash flood's destruction enhanced by the Wolf Den Fire (Figure 5). Such events were also reported in the wake of the Seeley Fire and continue to plague that area.

The extent of the White River fish kill remains unknown. Small-bodied, unidentified fish were observed in the channel margins of the White River on August 13th, so obviously the runoff didn't kill everything, but direct observation of widespread mortality reported by other individuals suggests a significant impact to the fish populations. Investigators will know more about its extent in the coming years when endangered fish population estimates are conducted and compared to those from the pre-flood period.

In the period of time between the Price River and White River fish kills, UDWR biologists documented yet another fish kill on the Green River in Desolation/Gray canyons. Carcasses of 600-800 channel catfish, 50 native suckers (including four endangered razorback sucker), two Colorado pikeminnow and other native fish were observed, yet this time there was no obvious linkage to post-wildland fire runoff: the event occurred upstream from the devastating Price River event, and too soon to be attributable to the White River event. Still, some biologists have concluded that drought conditions during 2012 had already created stressful conditions for native fish in terms of near-record low flows and water temperatures outside the optimal range for most species; thus, any sudden increase in river flow—whether it contains ash or the "normal" compliment of sediment that typically arrives during such spates—could easily push the already degraded water quality into lethal ranges for some species. Such flood pulses had, in fact, been recorded in the days preceding the Green River fish kill.

To date, over 1,000 wildfires have been recorded in Utah in 2012, and a devastating 8 million acres of land have burned in the western United States this year. More than one fishery professional has remarked that they can't remember such a bad fire season, particularly as it translates into impacts to fish. It's true that fire is a natural process (lightning is thought to be the cause of both the Seeley and Wolf Den fires), that monsoonal downpours are a natural process, and even in the absence of fire, desert soils are notoriously impermeable and inherently promote flash flooding during summer months. All of these factors help explain the numerous fish kills reported in Utah during this past summer.

At some level, then, these catastrophic events are not entirely out of place in the natural world, but exempting man from a role in such a devastating fire season would be oversimplifying the case. Obviously, carelessness with fire in the outdoors is a major factor (about half of the fires reported in Utah were human-caused). Some studies suggest that decades of fire suppression has resulted in forest stands that are too thick and primed to burn more destructively than if fires were allowed more frequently. Other information suggests that widespread bark beetle infestation has exacerbated the risks and impacts of fire, and strong evidence has linked the beetle's proliferation to climate change.

Whatever the ultimate cause or exacerbating factors, though, it is clear that the best-laid plans for fish recovery, fish management and stream restoration can be severely compromised by fire seasons like 2012. Like other partners in the Upper Colorado and San Juan River Endangered Fish Recovery Programs, I watched with a good deal of concern (and no small degree of discouragement and dismay) as the reports of dead fish began piling up in my email. It's discouraging to think that the immense effort put forth by program partners to recover endangered fish could literally go up in flames due to an errant lightning strike or a careless camper. How can a recovery or stream restoration plan possibly cover such seemingly random and destructive forces of nature such as wildfire?

While fish kills involving endangered fish during bad fire years have occurred before, they have usually appeared as sporadic, isolated incidents involving a single river reach within a given year. Examples of multiple, independent fish kill incidents within a single year are much rarer, which is why most people are still reeling from the blows dealt in 2012 and sorting through the details at this time. There hasn't yet been a formal discussion about what, if anything, the recovery programs can "do" about fire-related risks to the fish, or about how the threat to recovery that fire poses compares to other known threats (water development, lack of habitat, non-native fish). The discussion would probably revolve around whether fire represents merely a "pulsed" or sporadic, random threat to fish, or whether the lines of evidence from climate change research suggest that fires may become a more regular feature of the landscape in years to come. If the frequency and magnitude of wildland fires is increasing, do the laws that protect endangered species offer any recourse that could provide resources to prevent or mitigate the effects on endangered fish? At a higher level, also, fire and its impact transcends geographic and jurisdictional boundaries. Will management agencies be able coordinate their efforts to prevent and mitigate impacts to our natural resources? What can be done?

Clearly, these are difficult questions that in some ways have been with us for years, but failing to address them could lead to more summers like 2012.

Photos below

Figure 2. As demonstrated by UDWR biologists in the Price River, July 2012, water quality suffers dramatically when inputs of ash and other fire debris exceed the ability of the stream to dilute it. Photo: Dan Keller, UDWR.

Figure 3. Fire-ravaged landscape in the upper reaches of Evacuation Canyon, White River drainage, Utah, August 2012. Note channelized wash, an indicator of a massive runnoff event. Photo: Kevin McAbee, USFWS.

Figure 4. Severely incised gully caused by enhanced runnoff in the wake of the Wolf Den Fire, Evacuation Canyon near Vernal, UT, August 2012. Photo: Kevin McAbee, USFWS.

Figure 5. Freshly deposited soils and debris caused by excessive runnoff in the wake of the Wolf Den Fire, Evacuation Canyon near the White River, UT, August 2012. This debris flow terminated in the White River where it caused a massive fish kill. Photo: Kevin McAbee, USFWS.

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

UC Regional Liaison - Coming Home!

By Richard Beeman
UC Regional Liaison
Upper Colorado Region

Two years in Washington DC seems like an awfully lot of time when it is in front of you, but amazingly short in retrospect. It has been my privilege to work in the Commissioner's office on behalf of the Upper Colorado for the past two (now short) years. The liaison's job involves a lot of different things. The primary one is to ensure information moves between the Region and Washington but there are lots of ways that happens. I have made a mad dash to get a Federal Register Notice to the Federal Register (yes, they have their own office here) before their 2:00 PM deadline. Other times it has been a leisurely stroll over to the Environmental Protection Agency, or National Historic Preservation Office to drop off or pick up documents. Once I accompanied the Commissioner to a meeting with Council on Environmental Quality. Since the Interior Building is only three or four blocks from the White House, I get a little "official" sightseeing in along the way. While accompanying Larry on his annual Hill visits I was on Capitol Hill and into the offices of several Senators or Representatives from our region.

Of all the things I have done, though, I think the most memorable will be helping Jerry Montoya and his family find their way around Washington. Jerry was here to receive an Honor award. You may remember, he rescued a young girl from a dog attack, putting himself in danger in the process. He was receiving the award in recognition of his efforts. Helping them get to the office, introducing him to the Commissioner and others was in itself rewarding, but even more so was starting them off on a brief tour of the local monuments. As it turns our Jerry (and his sister, who traveled here with him) had a brother who died in the Vietnam War. I took them over to the Vietnam War Memorial, helped them look up the location of their brother's name, and showed them how to locate the position on the wall. As I left them, they were heading down the incline to find the name. If you have ever been to the "Wall" you will know how moving it is. I can't imagine the feelings Jerry must have had going there for the first time to find his brother's name.

There were many other memorable things – the big earthquake (no one out here knew what one was) – seeing 4th of July fireworks from the Potomac River – Mount Vernon – snow-magedon (it was only about 8-10 inches of snow, but when so many people don't have the skills or the equipment to drive in it, there is a mess) – Smithsonian museums (a bazillion!) – the Kennedy Center – well, you get the idea, there is a lot to see and do in Washington. On occasion, I even had to go in to work!

Speaking of work, there is a vastly different perspective on things from here. Where a local solution seems so obvious, the overall implications to Reclamation for particular course of action may be very different. It has been fascinating to see the Commissioner, Deputies, Assistant Secretaries and their staffs wrestle with the problems to try to achieve the best solution for the Department and the Government. I have gotten to see and appreciate these people up close and personal. (Did you know that Bob Wolfe wears blue jeans on occasion?)

All in all, it has been a fascinating time, but I will be glad to get home, and see the great people in UC Region, rather than just sending requests with impossible due dates. See you soon!

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

Annual Event C.A.S.T. for Kids at Elephant Butte Reservoir

By Susan Kendrick
Albuquerque Area Office

2012 has marked the 20th Anniversary for the Catch a Special Thrill (C.A.S.T.) program's extraordinary outdoor event which teams sponsors and volunteers with area youngsters for a day of fishing sportsmanship. September 8, 2012, also marked the 13th Annual Event C.A.S.T. for Kids at Elephant Butte Reservoir, New Mexico, sponsored by Elephant Butte State Park and the Bureau of Reclamation's Elephant Butte Field Office.

Although tempatures turned cold for New Mexico, 38 challenged and disadvantaged children experienced the joy of fishing with many community volunteers. There were 11 boat captains, 19 volunteers, and generous sponsorships. Volunteers from Reclamation's Elephant Butte Field Office team together with others around the Elephant Butte area. Albuquerque Area Manager Mike Hamman and Art Pasley, National Program Director for C.A.S.T., were also in attendance.

C.A.S.T. for Kids is a one-day outdoor fishing event that provides disabled and disadvantaged children an opportunity to learn to fish. The CAST for Kids National Foundation event is intended to provide an introductory learning opportunity for kids who might not otherwise have a chance. Parents are also encouraged to be active learners, so they may provide additional fishing opportunities for their children. Participants received fishing gear, t-shirt, and cap at the event which they could keep for future fishing

experiences. After the morning fishing session on the lake, participants enjoyed lunch and a trophy awards ceremony. This year's event was coordinated by Elephant Butte Lake State Park and Bureau of Reclamation Elephant Butte Field division, and supported by many volunteers and local businesses including Marina Del Sur, Arrey Café, Friends of Elephant Butte Lake, Walmart, Bullocks grocery, and Albuquerque Hawg Hunters.

Photos below

Return to UC Today

The Washington Post

Climate change challenges power plant operations

By Juliet Eilperin, *Published: September 9*

Dealing with drought at the Hoover Dam: Water managers across the country are scrambling for ways to produce the same amount of power from the hydroelectric grid with less water, including from behemoths such as the Hoover Dam. Jonathan Gibby / For the Washington Post

BOULDER CITY, NEV. — Drought and rising temperatures are forcing water managers across the country to scramble for ways to produce the same amount of power from the hydroelectric grid with less water, including from behemoths such as the Hoover Dam.

Hydropower is not the only part of the nation's energy system that appears increasingly vulnerable to the impact of climate change, as low water levels affect coal-fired and nuclear power plants' operations and impede the passage of coal barges along the Mississippi River.

"We're trying to manage a changing climate, its impact on water supplies and our ability to generate power, all at once," said Michael L. Connor, commissioner of the Bureau of Reclamation, the Interior Department's water-management agency. Producing electricity accounts for at least 40 percent of water use in the United States.

Warmer and drier summers mean less water is available to cool nuclear and fossil-fuel power plants. The Millstone nuclear plant in Waterford, Conn., had to shut down one of its reactors in mid-August because the water it drew from the Long Island Sound was too warm to cool critical equipment outside the core. A twin-unit nuclear plant in Braidwood, Ill., needed to get special permission to continue operating this summer because the temperature in its cooling-water pond rose to 102 degrees, four degrees above its normal limit; another Midwestern plant stopped operating temporarily because its water-intake pipes ended up on dry ground from the prolonged drought.

Scott Burnell, a spokesman for the Nuclear Regulatory Commission, said the safety of America's nuclear plants "is not in jeopardy," because the sources of water cooling the core are self-contained and might have to shut down in some instances if water is either too warm or unavail-

able.

"If water levels dropped to the point where you can't draw water into the condenser, you'd have to shut down the plant," he said. The commission's new chairman, Allison Macfarlane, has asked her staff to look at "a broad array of natural events that could affect nuclear plant operations" in the future, such as climate change, Burnell added.

For more than three-quarters of a century, the Hoover Dam has represented an engineering triumph, harnessing the power of the mighty Colorado River to generate electricity for customers in not just nearby Las Vegas but as far away as Southern California and Mexico.

But the bleached volcanic rock ringing Black Canyon above Lake Mead, the reservoir created by the dam, speaks to the limits of human engineering. Higher temperatures and less snowpack have reduced the river's flow and left the reservoir 103 feet below elevation for its full targeted storage capacity, which it last came close to reaching in 1999.

In the Colorado River's 100-year recorded history, 1999 through 2010 ranks as the second-driest 12-year period, yielding an average of 16 percent less energy.

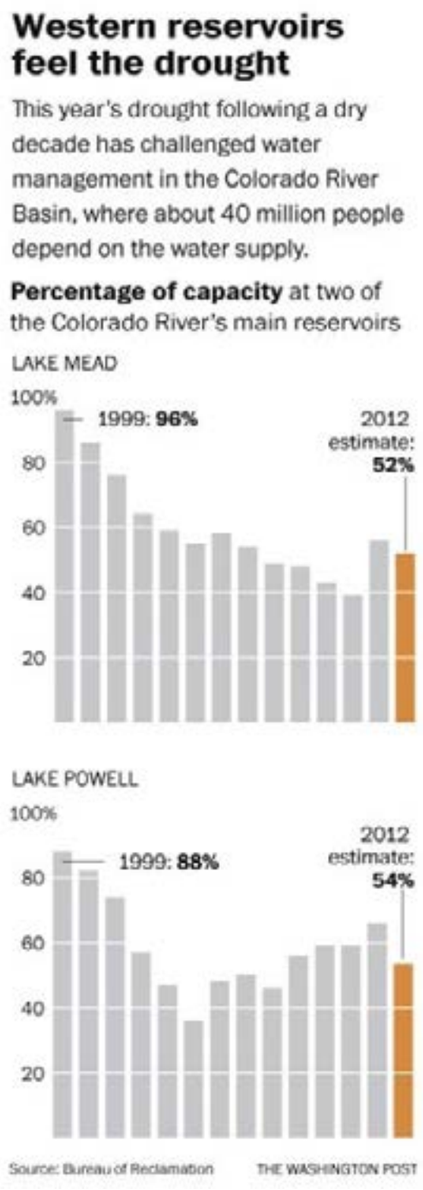
Scientists have just begun to study some key questions, such as the rate of evaporation off dams' storage facilities. Predicting river flows — which can flood one year and dry up the next — is even harder.

"Because of the variability of river systems, it's a lot more difficult in modeling how climate change will affect them," said Jenny Kehl, who directs the Center for Water Policy at the University of Wisconsin at Madison's School of Freshwater Sciences.

In Nevada, water managers are adjusting to what they call "the new normal."

Patricia Mulroy, who oversees the operations of the Southern Nevada Water Authority, since 2003 has imposed watering restrictions on golf courses and homeowners and increased water reuse from golf courses while also instituting an incentive program that to date has paid residents $200 million to pull out turf and replace it with water-efficient vegetation. (Enough turf has been ripped out to lay a stripe of sod stretching three-fourths of the way across the planet; overall, she has reduced total water use by a third in 10 years.) She has raised water rates four times in less than a decade while activating long-held water rights in east-central Nevada in 2004 to ensure that the community is less dependent on the Colorado River.

While some experts have suggested more ambitious measures — such as curtailing growth, making it harder for farmers to get cheap water and removing some dams to allow the Colorado River to regain some of its natural flow — federal, state and local authorities have resisted such proposals.



University of Arizona law professor Robert Glennon, author of the book "Unquenchable: America's Water Crisis and What to Do About It," describes the Colorado River basin in blunt terms. "It's a collision," he said.

Rising temperatures have started to affect U.S. coal plants as well. This summer's drought disrupted the transport of coal delivered by barges on the Mississippi, and the U.S. Army Corps of Engineers had to use dredges to deepen the navigation channel.

The Illinois Environmental Protection Agency granted special exceptions to four coal-fired plants and four nuclear plants this summer, allowing them to discharge water into local waterways that was hotter than the federal clean-water permits allowed. Normally the discharge water cannot exceed 90 degrees, but the waiver allowed utilities to release water as hot as 97 degrees.

And environmental groups such as the Sierra Club have questioned whether new coal plants should be built in areas that could face water scarcity. In August 2011, the Lower Colorado River Authority—which oversees a river confined to Texas' borders--postponed indefinitely its decision to provide 8 billion gallons of water to cool the proposed White Stallion Energy Center, and rejected it outright three months later. While the Sierra Club argued the plant would use too much water, local authorities said contract changes prompted their decision.

At the Hoover Dam, which hasn't run at capacity since 1983 because of lower river flows and other water demands, the Bureau of Reclamation has taken several steps to compensate for the decline in water availability. The dam loses between 5 and 6 megawatts of capacity for every foot in elevation Lake Mead uses, meaning this year it lost the equivalent of a medium-size power plant.

Aaron Muehlberg, the Hoover Dam's engineering supervisor, walked through its operations recently and highlighted the mix of antique details and modern improvements that mark the plant. Massive original pipes coated with coal-tar enamel still channel the water speeding through them at the rate of 3,400 cubic feet a second. ("Imagine 3,400 basketballs flying past you," Muehlberg said.) But it also has updated online controls on the governor that regulate the speed of water around the turbines.

Last year the engineering team installed a wide-head turbine that is 3 to 7 percent more efficient; it will replace an additional four of the plant's 17 turbines over the next four years. By 2015 the bureau will have put in 11 sets of thinner "wicket gates" that control the flow of water around the turbines: the steel mechanism is akin to a set of circular venetian blinds, and the new ones allow the water to move faster.

"We're able to jam-pack more water in there, which will give us more energy," Muehlberg said.

The bureau's most recent projections suggest that in the next 50 years, the lower Colorado River's flow will decline between 9 and 10 percent because of climate change, with demand exceeding supply by more than a third. At the same time, it estimates it will take between 3 and 10 percent more water to meet agricultural demands.

In the past, the agency has compensated for a gap in water supplies with sufficient storage, said Terry Fulp, the bureau's acting regional director for the lower Colorado basin."Now, the question with the projections we have now is, is storage going to be enough? Probably not," he said. "We need to start thinking of not just relying on this river system," he said. Fulp is overseeing a study of the basin's future supply and demand; the findings will be released in November.

Water managers can start by doing things "that are not too hard and not too expensive," Fulp added. "But you can only do those things for so long, and then you need to get serious about bigger solutions."

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

The Employee Development Team

The Employee Development Team, located in the Human Resources Office supports a number of programs including coaching, mentoring, and supervisory and leadership skills development. Specific information on these programs is found in the regional letter on Employee Training and Development. The letter can be found on the intranet at: http://intra.uc.usbr.gov/rltrs/rltrs.html. Here is some of the specific information contained in the Regional Letter:

Supervisory Training: Within the first six months as a supervisor, each incumbent is required to complete 40 hours of supervisory training. Within the next 18 months, the new supervisor is required to complete an additional 40 hours of supervisory or leadership training. Courses to meet this requirement are available in DOI Learn or alternate courses can be taken after consultation with the Human Resources Division.

Leadership Development: The Region currently participates in the Reclamation Leadership Development Program which is a Reclamation-wide program targeted to employees currently at the GS-13 level and above. The UC Region also participates in the Colorado Leadership Development Program; The Utah Leadership Development Program; and the New Mexico Leadership Development Program. These programs are targeted for GS-12 and GS-13 level employees, last for one year and are operated by the Office of Personnel Management. These programs are designed to prepare employees for future public leadership roles. We also provide a two day leadership training program called “The Leadership Challenge” to offices upon request. This training is for all employees. There are many other leadership development programs that the UC Region participates in to develop employees depending on specific needs of the region and the desires of the employees.

Supervisors and employees work together within available budget and with the input of the Human Resources Division to development and implement the career plans.

Formal training needs are documented prior to the beginning of each fiscal year or when a new employee enters on duty. Identifying training needs is an essential part of the performance appraisal process. The standards or objectives developed for the coming year should identify goals and, as far as possible, what performance will be needed to achieve those goals. If it is determined that there is an important difference between what the employee is already able to do and what the employee is expected to do to meet the performance standard, then training, information, practice, or direction may be appropriate.

Self development is encouraged to meet career goals. Supervisors can give valuable career feedback, but achievement of career objectives depends, to a large extent, on employee desire and motivation. Mastery of present duties is an important first step in career development.

Individual Development Plan (IDP): The IDP (Attachment-B) is a more comprehensive, long-term outline of developmental activities, including training, but also job-shadowing, rotational assignments, etc. This plan is a cooperative process and communication tool for supervisors and employees to plan strategies that promote professional growth and development consistent with organizational priorities. IDP's allow both the employee and supervisor to focus limited resources in the area of the greatest need. The IDP has areas to list coaching and mentoring developmental assignments.

If you have questions, or need additional information, please contact the Employee Development Staff at 801-524-3678.

Return to UC Today

Deseret News - Wednesday, Sept. 12 2012

Kokanee Salmon Viewing Day is Sept. 22

Those who attend this year's Kokanee Salmon Viewing Day can view bright red kokanee salmon.

HEBER CITY - Wildlife enthusiasts can view bright red kokanee salmon in the Strawberry River on Sept. 22.

The annual Kokanee Salmon Viewing Day runs from 9 a.m. to 3 p.m. at the U.S. Forest Service visitor's center at **Strawberry Reservoir**. The center is along U.S. 40, about 20 miles southeast of Heber City. Bright red kokanee salmon have started to swim up some of the tributaries to Strawberry Reservoir. The salmon make this journey as part of their annual spawning run.

The DWR and Friends of Strawberry Valley host the viewing event every September amid the valley's beauty and changing fall colors.

Some salmon are visible in the Strawberry River next to the visitor's center. Hundreds of salmon are also visible in the fish trap and egg-taking facility behind the visitor center.

Division of Wildlife Resources biologists will be available at the facility to show the salmon and talk with spectators about the peculiar life cycle of the fish.

For more information about the event, call the Uinta National Forest at 435-654-0470 or Scott Root with the DWR at 801-491-5656.

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

National Hispanic American Heritage Month

National Hispanic Heritage Month is a time for people to observe and learn about the history and contributions made by Hispanics in the United States. It is also a time to experience cultures and traditions of individuals who trace their roots from the Caribbean Mexico, Central and South American and Spain. The observation had its origins in September 1968 when President Lyndon B. Johnson issued an annual proclamation designating the week including September 15 and 16 as National Hispanic Heritage Week. Ultimately it was expanded to a month long celebration by President George H.W. Bush in 1989 from September 15 to October 15. This year's theme is *Diversity United, Building America's Future Today.* September 15 was chosen because it represents the first of three anniversary dates for the Latin American countries that received their independence from Spain. The first five countries are Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua, with Mexico and Chile celebrating there on the 16th and 18 of September, respectively.

Hispanic Americans have made contributions to our society in all areas of government, business, industry, agriculture, science, and the Armed Forces. According to the U.S. Census Bureau, Hispanics Americans are the largest ethnic or race minority with a population of almost 50 million people in the United States. With the population growth and immeasurable stakes in the market share, Hispanic businesses have become a vital part in the U.S. economy with purchasing power estimated to reach $1.5 trillion dollars by 2015.

National Hispanic Heritage Month celebrations are filled with four weeks of social events and festivals honoring Hispanic contributions to the United States and the global community. Not only is it a time to honor accomplishments, but it's an opportunity to share with the rest of the country a proud history of diversity and pride as a people.

For more information on National Hispanic American Heritage Month

Return to UC Today

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

Reclamation Participates in Navajo Nation Fair

Figure 1 - Lending a helping hand in preparation for the 4-H competition.

By Pat Page
Deputy Construction Engineer
Four Corners Construction Office

For the first time ever, Reclamation had a presence at the Navajo Nation Fair, in Window Rock, Arizona, from September 5-9, 2012. The event, billed as the "Largest American Indian Fair in North America", attracts between 100,000 and 150,000 visitors. The Four Corners Construction Office, primarily through the efforts of Dave Gates and Bernadette Fontenelle, developed and staffed an information booth at Nakai Hall, one of many exhibit halls on the Navajo Nation's Fairgrounds complex. Project Construction Engineer Barry Longwell and Deputy Construction Engineer Pat Page also participated. The purpose of the booth was to provide information to tribal members on the Navajo-Gallup Water Supply Project. The employees talked with and provided information to literally thousands of people over the five-day period. Many of those who stopped by Reclamation's booth, especially elders, noted that the Project has been talked about for many years – and they were excited to know that construction had actually started. A lot of questions were fielded about who was going to operate the Project, what areas were going

to be served, and when was it going to be completed. In addition, many individuals were interested in how to apply for a job with the Project. Tribal members were not the only ones who received information during the event. Reclamation staff members were able to talk to several local residents in the Rock Springs and Tsayatoh Chapters and get contact information for allotted lands. The information will serve very useful in efforts to obtain consent for right-of-way for the pipeline. All in all, Reclamation's presence at the 66th Annual Navajo Nation Fair was deemed to be a huge success, and we're already looking forward to participating in the 67th annual rendition.

Figure 2 - Native American Liaison Specialist Bernadette Fontenelle, provides NGWSP information to interested individuals at the Navajo Nation Fair.

Figure 3 - A sampling of the crowds that filled Nakai Hall during the Navajo Nation Fair.

Return to UC Today

Are you ready for the Southern Ute Tribal Fair?

PAGE 3

It's a dirty job, but someone's gotta do it

PAGE 14

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INSIDE THIS ISSUE

WINNER OF FIRST-PLACE NATIVE AMERICAN JOURNALISTS ASSOCIATION AWARDS FOR GENERAL EXCELLENCE IN 2010 AND 2011

ANIMAS-LA PLATA PROJECT

Bringing endangered fish back

By Ace Stryker
THE SOUTHERN UTE DRUM

Hundreds of years ago, Colorado pikeminnow — North America's largest minnow, known to grow to nearly six feet long — swam freely through the Colorado River and most of its major tributaries in the West.

The fish were called "white salmon" for their size and migratory behavior, and were a sought-after food source for both Native Americans and later settlers.

"You can see how you cut steaks off that thing," said Dale Stewart of Vernal, Utah, in 1937, after catching a 25-pound fish. "I remember a fish like that really was a harvest, and it produced not just one meal, but quite a few meals for the family."

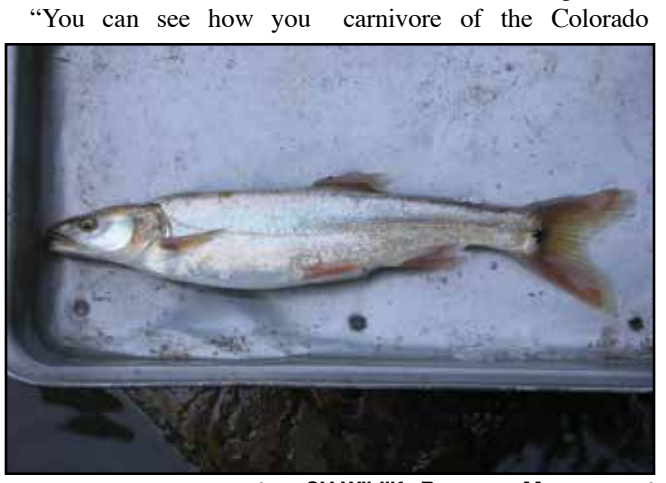
But time brought unwelcome changes to the pikeminnow's habitat. By the mid-20th century, water development and the introduction of non-native species, such as carp and catfish, had pushed the fish to the brink of extinction. The top native carnivore of the Colorado River system was listed as endangered by the U.S. Fish and Wildlife Service in 1967.

By one estimate in the 1980s, perhaps as few as 20 to 100 individuals survived in the wild.

Similar challenges afflicted the razorback sucker, another native inhabitant of the Colorado River Basin. The Fish and Wildlife Service listed it as endangered in 1991.

But the two species have not gone the way of the cutthroat yellowfin trout (presumed extinct in 1903).

Instead, today thousands of pikeminnow and razorback sucker are found in the San Juan River between Navajo Reservoir and Lake Powell — and their numbers continue to grow. Leading the charge to replenish the populations are the Southern Ute Indian Tribe and its partners in the San Juan River Basin Recovery Implementation Program.



courtesy SU Wildlife Resource Management

A Colorado pikeminnow photographed in 2004.

PROTECTING FISH, PROTECTING RIGHTS

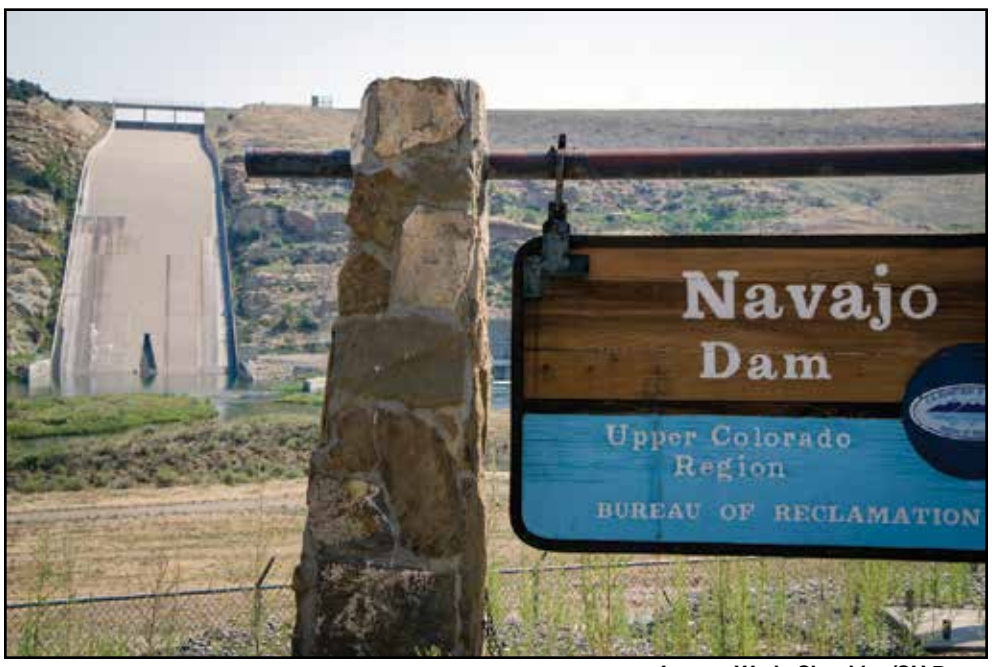
"It's kind of a two-pronged approach: Recover the fish, but still allow for water development," said Steve Whiteman, head of the tribe's Wildlife Resource Management Division.

To understand the tribe's stake in the survival of the fish, one must first understand a little bit of the history of the Animas-La Plata Project.

In 1986, after years of litigation, the federal government reached a settlement with the Southern Ute and Ute Mountain Ute tribes regarding the tribes' historical claims to water in southwest Colorado. The Colorado Ute Indian Water Rights Final Settlement Agreement identified the Animas-La Plata Project — which was then planned, but not yet constructed — as the source of water the tribes would receive under the settlement.

But it wasn't yet the happy ending for which the tribes hoped. In the late '80s, the Fish and Wildlife Service found small numbers of Colorado pikeminnow and razorback sucker in the San Juan River. It issued an opinion in 1991 stating that the project, as proposed, jeopardized the health of the endangered fish.

***Recovery** page 16*



Jeremy Wade Shockley/SU Drum

The Navajo Dam rises above the San Juan River south of the reservoir. The manmade structure adjusts its downstream releases seasonally to benefit several species of endangered fish.

Dancers welcome top cyclists

photos Jeremy Wade Shockley/SU Drum

Cassandra Naranjo, Melanie Siebel and Lindsay Box lead the Southern Ute cultural dancers in Durango's Buckley Park as part of the festivities surrounding the 2012 USA Pro Challenge, which began along Main Street on Monday, Aug. 20.

A racer with Team Exergy speeds onto Main Street in the opening lap of the 2012 USA Pro Challenge. Fans and spectators lined historic downtown Durango, filling Buckley Park for the nationally televised event.

Heritage Train steams again

courtesy Robert Baker/SU Cultural Preservation Dept.

Neida Chackee puts the final touches on her son's regalia before disembarking at Cascade Canyon for the annual Native American Heritage Train. For more photos, see page 9.

courtesy Boys & Girls Club

Members of the Southern Ute Royalty, the Southern Ute Indian Tribal Council, and the Boys & Girls Club of the Southern Ute Indian Tribe pose for a photo with the National Award of Merit, given to the council by the Boys & Girls Club of America on Thursday, Aug. 9.

BOYS & GIRLS CLUB

Boys & Girls Club of America honors chairman, council

By Melinda Englert
BOYS & GIRLS CLUB

During a historic celebration of 20 years of Boys & Girls Club of America's presence in Indian Country, President and CEO Jim Clark awarded Southern Ute Indian Tribal Council Chairman Jimmy R. Newton Jr. the National Service to Youth Award.

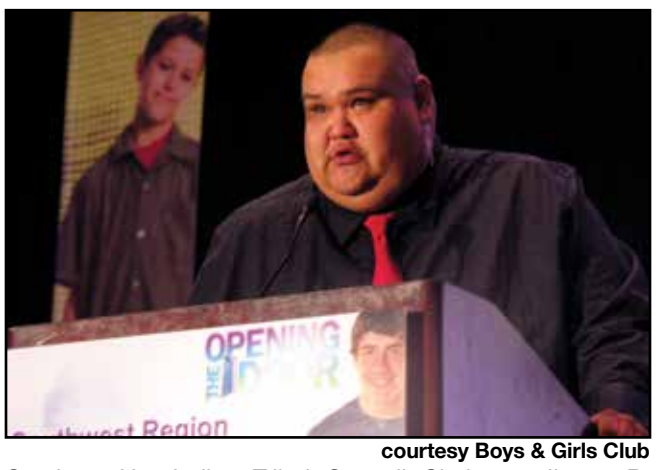
Clark also gave the Tribal Council the National Award of Merit for its steadfast dedication to youth development. The presentations took place as part of the Boys & Girls Club's 2012 Southwest Leadership Conference in Denver.

Following an introduction by the Rock Creek Singers and Southern Ute Tribe Royalty, Newton provided a blessing for all conference attendees. Newton and the council, royalty and Boys & Girls Club of the Southern Ute Indian Tribe staff were recognized before more than 350 conference attendees.

The council has been committed to the success of the Boys & Girls Club of the Southern Ute Indian Tribe since its inception. The Boys & Girls Club has benefitted greatly from the close relationship it shares with the council, which serves as its board of directors. The council guides the club in establishing identity and strategic direction, ensures resources, provides oversight, and maintains a strong Southern Ute focus.

Serving as council members, community leaders, and mentors for the youth, the Tribal Council has been instrumental in fulfilling the club's mission to enable all young people, especially those who need it most, to reach their full potential as productive, caring, and responsible citizens.

Receiving the National Service to Youth Award, Newton is the person the club would most like to honor in its history, as he has been a board member since its inception



courtesy Boys & Girls Club

Southern Ute Indian Tribal Council Chairman Jimmy R. Newton Jr. addresses attendees of the Boys & Girls Club of America's 2012 Southwest Leadership Conference in Denver on Thursday, Aug. 9. The national club awarded Newton its National Service to Youth Award.

***Club** page 5*

Bringing endangered fish back from the brink • from page 1

What could have been a death blow to ALP was diverted through an alternative plan: The scope of the project was reduced, and special considerations were made to maximize the species' chances for survival. Among them were provisions requiring that the Navajo Dam be operated to mimic the natural "hydrograph" — or seasonal rising and falling of water levels — of the river, that the federal government fund research on the endangered species, and that a recovery program for the fish be established.

Ultimately, the project's various stakeholders — chief among them the two Ute tribes, the Navajo Nation, the Jicarilla Apache Nation, the states of Colorado and New Mexico, and the federal agencies — signed a cooperative agreement and the recovery program was born. Work on ALP was allowed to move forward.

Jeremy Wade Shockley/SU Drum

While natural species often suffer the consequences of manmade structures in their natural habitat, trout populations thrive in the cool, clear waters below the Navajo Dam, creating gold-medal waters for fly-fisherman year round.

HOW TO SAVE A LIFE

"It's all about restoring the natural ecology of the river," Whiteman said.

The endangered fish face two main threats to their survival: Changing hydrologic conditions and nonnative competition.

One problem with damming rivers is that it tends to regulate the flow of water downstream, Whiteman said. While that might not sound particularly harmful, it interferes with the lifecycles of the fish that have evolved over millions of years that depend on, say, higher water levels from snowmelt runoff in the spring.

To preserve the natural pattern, the Navajo Dam has been using a research-based approach to releasing water since 1992.

"It's a very complicated kind of flow chart," Whiteman said.

The other obstacle the program must overcome to create an environment in which the fish can thrive is to remove as many nonnative fish as possible from the roughly 225-mile stretch of river between Navajo Reservoir and Lake Powell. In addition to competing for resources, the nonnative fish have caused choking deaths in the natives who identify them as food.

Removal is accomplished using "electrofishing," a technique in which a boat trolling the river inserts two electrodes into the water and delivers a current that stuns nearby fish. Using nets, scientists collect the fish and sort them. The pikeminnow and razorback sucker are measured and tagged; the nonnative fish are removed.

Using electrofishing, the program has removed nearly 30,000 channel catfish.

Similar work is done at a "fish-passage facility" on the river near the Hogback between Shiprock and Waterflow, N.M., where nonnative fish are removed as they swim through.

The third prong of the recovery effort is stocking the river with native fish. Working with the Dexter National Fish Hatchery and Technology Center in New Mexico, the program stocks hatchery-produced pikeminnow to the tune of 3,000 over age one and 300,000 under age one each year.

Razorback sucker are hatched at the Uvalde National Fish Hatchery in Texas. Some then go to Navajo Agricultural Products Industry ponds in northwest New Mexico. When they reach about 12 inches, they're stocked in the river as well — approximately 11,400 a year.

Naturally, as endangered species, the law compels fishermen who catch pikeminnow or razorback sucker to immediately throw them back.

PROMISING RESULTS

It's during the electrofishing surveys that the program also gets an idea of how well its efforts are working.

It's impossible to know exactly how many of each species are swimming the San Juan at any given time. But by surveying the same stretch of water each year, researchers can establish a trend. In recent years, that trend has been encouraging, said Dr. William J. Miller of Miller Ecological Consultants, who represents the tribe on the program's Biology Committee.

More of each species are being captured each year, he said — more than 1,750 pikeminnow and 1,500 razorback sucker in the 2011 survey. Adult fish are also starting to show up in the survey, suggesting the younger fish are able to survive.

"The big thing is are they reproducing in the river, and are their progeny surviving over time?" Whiteman said. "There's more encouraging biological response from these recovery efforts."

Miller said the program's success has made it a "model recovery program" nationwide.

"It's gotten really good reviews from a lot of outside peers all over the country," he said.

But while the fish are doing fine, the program itself sees a new threat on the horizon, Whiteman said.

"The federal funding has become more and more tenuous over the years," he said. "It's definitely more of a financial burden on the tribes now. … We've really had to lobby in Washington, D.C."

Whiteman said the tribe remains committed to helping the fish recover. If the population of one or the other were to crash, it would trigger another round of consultation, effectively freezing the tribe's ALP water rights until the problem were resolved.

"We want to see these fish recovered and stay recovered, because if it doesn't happen, the federal Endangered Species Act is going to keep everything in limbo," he said. "Given the progress we're seeing, we can recover the fish. … I can see a day when the fish will reach federal guidelines for recovery."

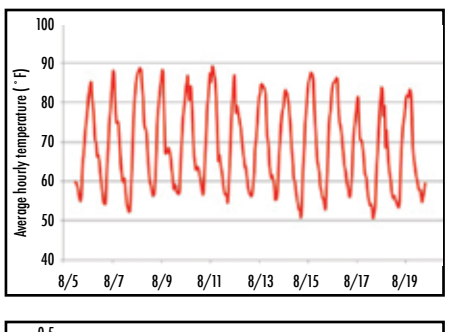
In the meantime, Southern Ute tribal members can catch a glimpse of the nascent fish close to home: An aquarium at the Southern Ute Montessori Academy houses a small population of pikeminnow, and one in the Annex Building contains razorback sucker.

LOCAL IGNACIO WEATHER

Friday, Aug. 24	Saturday, Aug. 25	Sunday, Aug. 26
Chance T-storms 78˚F	Mostly Sunny 84˚F	Mostly Sunny 85˚F

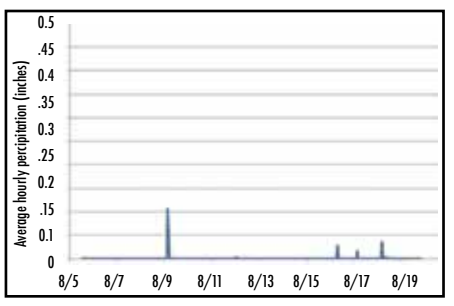
Aug. 17 · Aug. 24 · Aug. 31 · Sept. 8 · Sept. 29

Weather data for Aug. 5 – Aug. 18



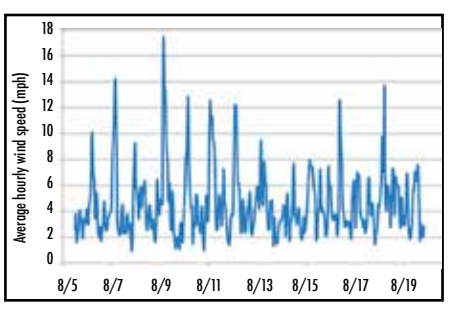
Temperature

High	89.1˚
Low	50.7˚
Average	69.0˚
Average last year	69.4˚



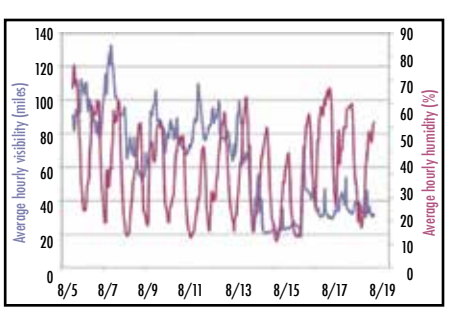
Precipitation

Total	0.26"
Total last year	0.00"



Wind speed

Average	4.5
Minimum	0.9
Maximum	17.1



Visibility & humidity

Average visibility	63.3
Average humidity	42.1%

Air quality
Good

Data compiled by Southern Ute Environmental Programs

Weather forecasts collected from www.NOAA.gov

RECLAMATION
Managing Water in the West

September 2012
Upper Colorado Region

UC Today

What Is the Media Saying About Reclamation This Week?

Free Entrance to All National Parks on September 29

Drought Likely To Persist Until Dec.

Vilsack Announces Rio Grande Conservation Plan

Bureau of Reclamation 50th anniversary postage stamps (3 cents, 1952) (ephemera from a fractured West) #GrandCouleeDam http://t.co/Uly7NC2X Twitter

Rio Grande Water Issues a Morass

Driest, warmest 24 months in New Mexico history

Lower Rio Grande

Blue Mesa Dam to be tested video

Colorado River District Annual Water Semiar

H.R. 6060, Endangered Fish Recovery Programs Extension Act of 2012

Environmental projects benefit multiple water users

Colo. River District features water seminar today

WATER LINES: Opportunity to learn about water issues offered through CMU

WATER LINES: Drought Watch 2012, Reservoir storage & Lake Powell's role in it all

US-Mexico water talks stalling – what I learned from a new water blog

State board OK's Lake Powell pipeline funding bill

Most Of State In 'Severe' Drought

U.S. Bureau of Reclamation releases August-end status of local reservoirs http://t.co/gxyPp8wl @CortezJournal Twitter

Reservoirs under 6 percent

Water Conference's 75th Anniversary video

Arizona County has no idea how much water it has

Earmark could fund pipeline

Northwest is dry, Southwest is wet

Improvements lead to new headaches across the Rio Grande

Rio Isn't as Grande as It Should Be

Cooperation Is Essential To Water Use

Reclamation awards contract for work at Utah's 4.5-MW Echo Dam hydropower plant

Is Lake Powell really shrinking?

Colorado: Water seminar tackles drought, climate change

Mussel Prevention Requirements

Subdistrict begins implementation of groundwater management plan

Water security: Pipeline venture will help city

High water levels create powerful cascades on Price River

Regional groups unite behind Colorado River

Animas hits 4th lowest flow in 100 years

Drilling tests will determine dam's integrity

Tensions Rise With Plan To Flood Grand Canyon Tuesday, 07/10/12 10:00pm - All Things Considered For almost 50 years, northern Arizona's Glen Canyon Dam has been slowly eroding the Grand Canyon's riverbanks. Soon, dam managers will release simulated f

Their View: Udall and NMSU seek solutions to drought problems

Drilling at Blue Mesa will check dam safety

Will the lower basin make a 'call' on the river?

NPS' Teaching with Historic Places & Bureau of Reclamation have new class lesson plan on Rio Grande irrigation project:... Twitter

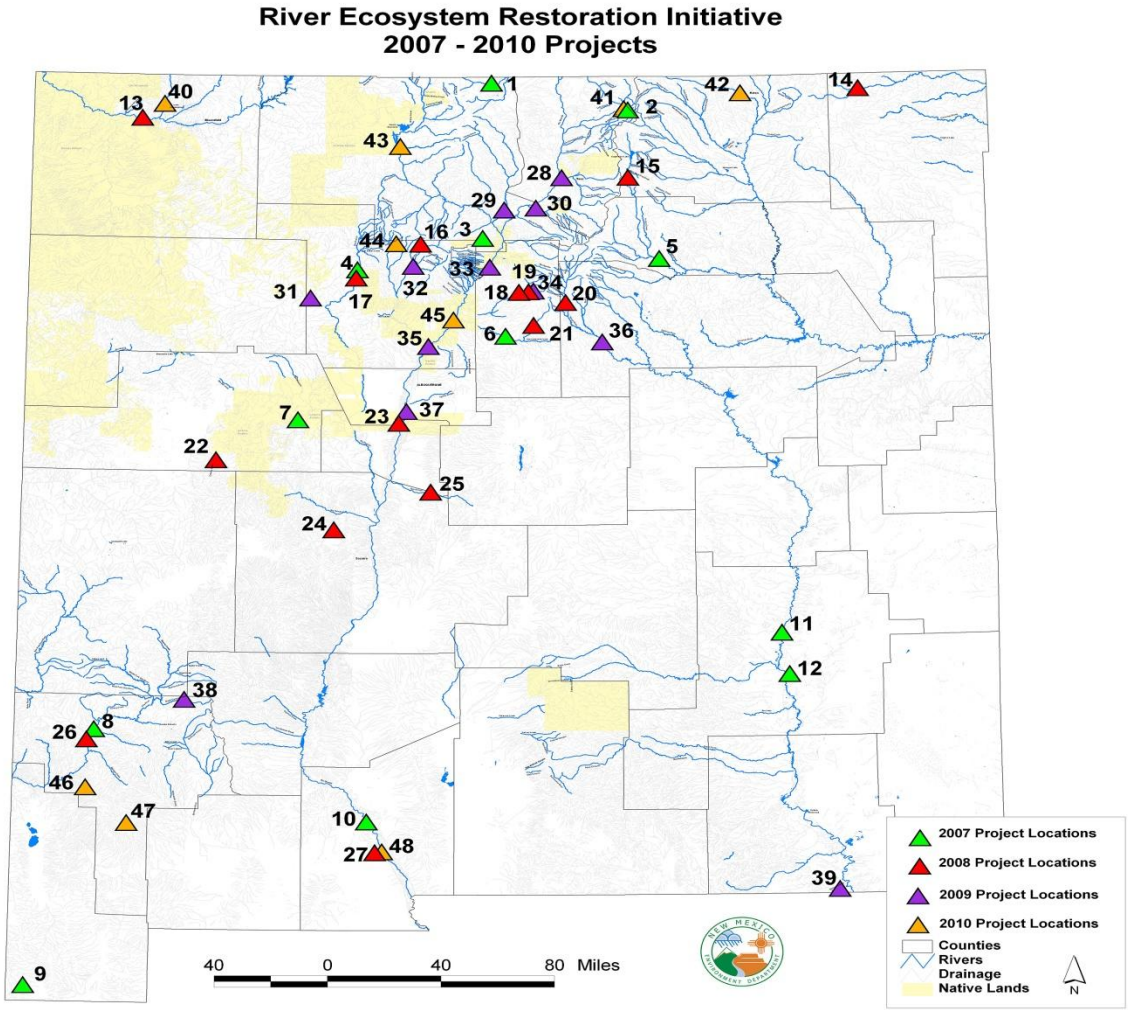
Reservoirs are water savings accounts. Largely, they operate to catch snowmelt for use later in the summer — but are big enough to build a nest egg for future drought years. If you like to brush your teeth, shower, eat and... ');" onmouseout="r

Pastrick: Keeping the Colorado healthy makes 'cents'

Spate of fires, mostly small, erupts Wednesday

Return to UC Today

What's next for river restoration in New Mexico?



In 2007, as part of Governor Bill Richardson "Year of Water" initiative, he requested that the New Mexico State Legislature fund a new program, the River Ecosystem Restoration Initiative, or RERI. Its purpose was to restore instream ecosystem functions and watershed health to major water basins throughout New Mexico. Denise Fort, the governor's appointee to the Water Trust Board and a member of the governor's Transition Team for water, had suggested it to Richardson as a means of balancing the state's water development programs with a program to further environmental values in rivers.

Once the legislature appropriated the money each year, the New Mexico Environment Department solicited proposals; each was evaluated according to more than a dozen criteria by a committee made up of representatives from the state's natural resource agencies. The proposed projects had to be scientifically sound and sustainable, says Karen Menetrey, Environmental Scientist/Specialist with RERI, and also have stakeholder support and a commitment to ongoing maintenance and stewardship.

Over the course of four years, RERI supported 48 projects across the state to the tune of $8.2 million.

Each year, Menetrey says, the agency received between 22 and 30 proposals, though it could only fund 12 four-year projects each year. The first 12 projects finished up last year—and collectively, treated 35 river miles and 2,394 riparian acres.

"What that means is different in each project," she says, pointing out that in some cases projects involved removing hydrological barriers to flows, like dykes and dams and berms; removing nonnative vegetation and replanting with native vegetation; or using bioengineering erosion control measures along arroyos and streambeds to hold banks in place.

"People especially liked (RERI) because it was statewide, there wasn't a match requirement, and in fact, they could use RERI funding to match federal grants in some cases," she says.

Bur this year, no funding was provided for the program. That means the program will expire in June 2014, when the last of the four-year projects ends.

The apparent demise of RERI is lamented within the private sector, as well as among nonprofits and federal agencies, such as the US Fish and Wildlife Service. (See stories in this issue about the San Juan River and the Pecos River.)

Despite the loss of funding, Menetrey is optimistic about the impact RERI has had statewide.

"One of the wonderful things about RERI is the tremendous amount of partners who have been involved in the projects—I have a list of about 200 partners, that range from tribes and pueblos to soil conservation districts to conservation groups to schools," she says. "Lots of people have been involved, and all of the contractors are very committed to what they're doing. They're committed to conservation and restoration, and they're committed to the specific places they're working on."

RERI funding has also acted as seed money, helping spur projects that might never have happened.

"When we look at the sum total of the $8.2 million, we can say of that $8.2 million from the state, the collaborators have brought in a one-to-one match from different sources—from federal sources, private donations, and nonprofit donations," she says. "RERI has created a tremendous momentum for restoration work."

For more information:
New Mexico Environment Department Surface Water Quality Bureau River Ecosystem Restoration Initiative:
http://www.nmenv.state.nm.us/swqb/RERI/

2007-1010 Project Tables:
http://www.nmenv.state.nm.us/swqb/RERI/Tables/index.html

River Ecosystem Restoration Initiative booklet:
ftp://ftp.nmenv.state.nm.us/www/swqb/RERI/RERI-Booklet.pdf

RECLAMATION
Managing Water in the West

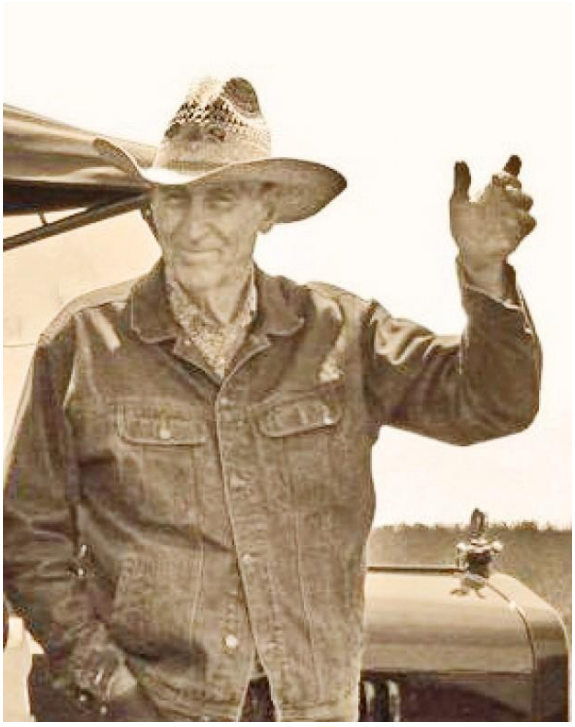
September 2012
Upper Colorado Region

UC Today

In Transition

L. Reed Olsen Rides into the Sunset (in His Model T)

L. Reed Olsen, a long-time former employee of the Bureau of Reclamation, passed away on September 3rd, 2012.



After graduating from college, Reed took a job in Provo. He worked for years as a public affairs officer and had a warm relationship with the water users. Reed was a gifted artist and illustrated a children's coloring book on water conservation. When Reclamation's public affairs started to head in a different direction, Reed moved on and became a construction inspector, first in Utah and then in Wyoming and Montana. He loved the outdoors and people, so construction work fit his personality and interest. To put it mildly, Reed, also known as "the Rattler," was a character and a true gentleman cowboy.

According to his obituary: "He loved restoring Model-T Fords and other old cars and trucks from the time period. He could 'spin a yarn' that would have his listeners in stitches. He was a great father and taught his children to work hard and play hard too."

Yes, he could make others enjoy time spent with this amazing father, brother, grandfather and friend. Reed "rode off into the sunset" Monday, September 5th, 2012. A celebration of his life was held by close family in the canyon where he loved hunting with his family. He will be greatly missed.

As his brother said, "Adios" Pardoner. We love you and will miss your smile.

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Return to UC Today

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National Hispanic American Heritage Month Trivia

Here's this week's set of questions:

(1) May 5, or Cinco de Mayo, is celebrated because, on May 5, 1862, Mexican forces defeated the invading soldiers of France at the Battle of Puebla. True or False

(2) Whose flag has red and white stripes, a blue triangle and one white star?
- a: Puerto Rico
- b: Cuba
- c: Mexico
- d: none of the above

(3) El Vado Dam, located on the Rio Chama about 160 miles north of Albuquerque, was built by the conservancy district in _____ and was rehabilitated by the Bureau of Reclamation in _____.

Bonus question: The El Vado the town's name meant "_____" in Spanish, and it was named so because it was an important ford and trading center on the Rio Chama during the 19th century

Last week, We asked,

(1) In what year did women in the United States win the right to vote? 1920

(2) What was the name given to the 19th Amendment to the Constitution which guaranteed women's right to vote in the United States. Susan B. Anthony Amendment

(3) Victoria Claflin Woodhull was an American *suffragist* who was described by Gilded Age newspapers as a leader of the American woman's suffrage movement in the 19th century. Woodhull was nominated for President of the United States by the newly formed Equal Rights Party on May 10, 1872. True or False

Last winner was – Gary Dean – Albuquerque Area Office

Please use this link to send your answers. To be fair we will draw names from the winners and one person will receive a prize. We will reach into the prize bin for something suitable for the winner...as long as supplies last.

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